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Dickinson Wright PLLC			BROOKMAN, STEPHEN A	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/586,599	<b>Applicant(s)</b> TENEZE ET AL.
	<b>Examiner</b> Stephen Brookman	<b>Art Unit</b> 3644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### **Status**

1) Responsive to communication(s) filed on 16 January 2009.  
 2a) This action is FINAL.      2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### **Disposition of Claims**

4) Claim(s) 16-30 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 16-30 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### **Application Papers**

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 20 July 2006 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### **Priority under 35 U.S.C. § 119**

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### **Attachment(s)**

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date: _____
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/1648)	5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date: _____	6) <input type="checkbox"/> Other: _____

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the supply of combustion gas to the third and fourth nozzles from the lift and displacement motor and the attitude motor (Claim 30) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. It should be noted that the lift and displacement motor is separate from the attitude motor and therefore it is not shown how both of these motors supply combustion gas to third and fourth nozzles. Nozzles typically receive combustion gas from one motor.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Objections***

2. Claim 24 is objected to because of the following informalities: the word "for" should be "by" in line 3 of page 7. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 16-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 16 refers to "lines of action." These are not defined within the specification and it is not clear what structure this attempts to claim. Additionally, Claim 16 recites the limitation "the rear end of said flying object" in line 6 of page 5. There is insufficient antecedent basis for this limitation in the claim.

Further, Claims 24-26 are unclear in that it is not clear what is being claimed by "propulsion unit" and "guidance unit." The propulsion unit appears to be the motor and nozzle (11,13), but the guidance unit is also mentioned, rendering both the propulsion unit and the guidance unit unclear as to exactly what

structure is being claimed to account for these units. It is further not clear whether the propulsion unit is the motors of claim 1 or a new propulsion unit in addition to that specified in claim 1. It seems as though the applicant is using two names for the same feature. Further, regarding Claim 26, it is not clear how the propulsion unit and the guidance unit *consist* of an additional motor without any additional structure. The word *consist* limits the units to exclusively including the motor and no further structure.

With regard to Claim 28, it is unclear how a propulsion unit and guidance unit are "formed by" said lift and displacement motor and by said attitude motor. This is unclear both in how "formed by" is confusing (how do the motors form units?), and in that claim 24 seems to claim a separate propulsion unit and guidance unit and claim 28 seems to force these to be part of previously claimed structure. Further, the third and fourth nozzles are unclear, as there are no first and second nozzles previously claimed. What is the propulsion unit? What is the guidance unit? What is associated with third and fourth nozzles? What is distributed laterally around the attitude motor?

With regard to Claim 29, it is unclear how the first and second nozzles form third and fourth nozzles. If the first and second nozzles are moved to point to the front of the body, they no longer meet the limitations of Claim 16 (because the lift and displacement motor must ensure "lift" and therefore they would no longer ensure

"lift" but instead a downward force), rendering the claim indefinite. Further, "said first and second nozzles" lacks antecedent basis, as there is no prior reference to this structure within the claims.

With regard to Claim 30, it is unclear how the third and fourth nozzles are both supplied by both the lift and displacement motor and the attitude motor, as nozzles are typically supplied by only one motor.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kubota et al (U.S. Patent 4,913,379) in view of McDonnell (U.S. Patent 6,705,573).

Kubota et al teach a flying object capable of observing the ground, comprising:

- an elongate body (Figure 1B)
- a lift and displacement motor (8), of the type with combustible propelling charge (i.e. sustainer propellant 10, Column 3, lines 15-36), producing lateral maneuvering forces whose lines of action pass through the center of gravity of said flying object (i.e. lines of force pass through the CG)
- an attitude motor (6), of the type with combustible propelling charge (i.e. booster propellant 9), producing lateral maneuvering forces,
- said lift and displacement motor (8) and said attitude motor (6) are disposed on either side of said center of gravity (CG) of the flying object (as seen in Figure 1B) and in that, during the combustion of the respective propelling charges of these latter two motors, the position of said center of gravity remains at least approximately

fixed (i.e. the center of gravity of the vehicle does not change very much as the vehicle operates)

- said lift and displacement motor (8) being able to ensure the lift and the displacements of said flying object in an observation position for which said object is at least approximately vertical with the rear end of said flying object directed downwards (i.e. the missile can fly upwards in a vertical position)
- said attitude motor is able to maintain said flying object in said at least approximately vertical observation position

Kubota does not expressly disclose picture taking means disposed on the vehicle. However, cameras disposed on the rear part of elongate bodies of flying objects able to observe the ground when the flying object is in a vertical position (i.e. correctly/nominally oriented flight position) are old and well known within the art, such as taught by McDonnell. McDonnell teaches a flying object for observing the ground comprising an elongate body (i.e. the aircraft fuselage) having a picture taking unit mounted onboard the flying object (i.e. sensor 70, an electro-optical or infra-red sensor, being "picture taking" units able to observe the ground as described in Column 8, lines 5-10), such that the picture taking unit is disposed at the rear part of the elongate body (i.e. behind the wings and cockpit) and able to observe the ground when the flying object is in at least approximately vertical observation position (i.e. "vertical" observation position being deemed to

be any one of normal upright flight or any position having positive angle of attack with the rear directed at least somewhat downwards) for the purpose of providing a ground observation capability. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to include a picture taking means (i.e. camera or sensor) disposed at the rear of said elongate body and able to observe said ground when said flying object is in said at least approximately vertical observation position, for the commonly known purpose of observing the ground below or monitoring flying vehicle activities.

With regard to Claim 17, it would have been obvious to one having ordinary skill in the art at the time of the invention to design the motors such that the lift and displacement motor (8 of Kubota) exhibits a larger mass than the attitude motor (6 of Kubota) and is closer to the center of gravity of the flying object than the attitude motor because this would have been an obvious design choice for stability of the object, as the lift is desirable to act through the center of gravity more so than attitude control, and attitude control must exert some amount of moment about the center of gravity, as well as the fact that lift and displacement requires more power and hence more fuel than attitude control. Kubota shows the lift and displacement motor (8) having larger fuel mass in Figure 1B and is closer to the center of the flying object.

Regarding Claim 18, Kubota et al teach the attitude motor (6) at the rear of the elongate body while the lift and displacement motor (8) is at least partially just in

front of the center of gravity of the flying object (i.e. most mass is behind the chamber of 8).

Regarding Claim 19, the flying object is at least partially controlled (i.e. affected) in roll by the lift and displacement motor (i.e. as the lift and displacement motor of Kubota is used, it inherently affects the roll orientation of the motor).

9. Claims 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Damblanc (U.S. Patent 3,112,669) in view of McDonnell (U.S. Patent 6,705,573).

Damblanc teaches a flying object capable of observing the ground, comprising:

- an elongate body (structure 1, which is elongated along the length of the body from the bottom to the top of Figure 1)
- a lift and displacement motor (2), of the type with combustible propelling charge (i.e. solid rocket, column 2, line 13), producing lateral maneuvering forces whose lines of action pass through the center of gravity of said flying object (i.e. lines of force pass through the CG)
- an attitude motor (i.e. any other of the motors 2 not considered lift and displacement motors per above or motor 3, tiltable as in Figure 3), of the type with combustible propelling charge (i.e. solid rocket, column 2, line 13 or liquid rocket, Column 2, line 36), producing lateral maneuvering forces,
- said lift and displacement motor (2) and said attitude motor are disposed on either side of said center of gravity (CG) of the flying object (i.e. the

motors 2 are distributed equally about the center of gravity of the object as seen in Figure 1, or the motors 3 are on another side of the CG from one of the motors 2) and in that, during the combustion of the respective propelling charges of these latter two motors, the position of said center of gravity remains at least approximately fixed (i.e. the center of gravity of the vehicle does not change very much as the vehicle operates)

- said lift and displacement motor (2) being able to ensure the lift and the displacements of said flying object in an observation position for which said object is at least approximately vertical with the rear end of said flying object directed downwards (i.e. the object hovers above the ground in the orientation seen in Figure 1, the bottom being the rear)
- said attitude motor is able to maintain said flying object in said at least approximately vertical observation position

Damblanc does not expressly disclose picture taking means disposed on the vehicle. However, cameras disposed on the rear part of elongate bodies of flying objects able to observe the ground when the flying object is in a vertical position (i.e. correctly/nominally oriented flight position) are old and well known within the art, such as taught by McDonnell. McDonnell teaches a flying object for observing the ground comprising an elongate body (i.e. the aircraft fuselage) having a picture taking unit mounted onboard the flying object (i.e. sensor 70, an electro-optical or infra-red sensor, being "picture taking" units able to observe the

ground as described in Column 8, lines 5-10), such that the picture taking unit is disposed at the rear part of the elongate body (i.e. behind the wings and cockpit) and able to observe the ground when the flying object is in at least approximately vertical observation position (i.e. "vertical" observation position being deemed to be any one of normal upright flight or any position having positive angle of attack with the rear directed at least somewhat downwards) for the purpose of providing a ground observation capability. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to include a picture taking means (i.e. camera or sensor) disposed at the rear/bottom of said elongate body of Damblanc and able to observe said ground when said flying object is in said at least approximately vertical observation position, for the commonly known purpose of observing the ground below or monitoring flying vehicle activities, especially in light of the purpose of Damblanc (minesweeping, which would inherently be aided by visual observation of the ground below the vehicle).

With regard to Claim 17, it would have been obvious to one having ordinary skill in the art at the time of the invention to design the motors such that the lift and displacement motor exhibits a larger mass than the attitude motor and is close to the center of gravity of the flying object than the attitude motor because this would have been an obvious design choice for stability of the object, as the lift is desirable to act through the center of gravity more so than attitude control.

With regard to Claim 18, the attitude motor of Damblanc is disposed at least partially at the rear/bottom of the elongate body, while the lift and displacement motor is disposed at least partially just in front/top of the center of gravity of the flying object.

With regard to Claim 19, the flying object of Damblanc is at least partially controlled in roll by the lift and displacement motor.

10. Claim 20-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kubota et al (U.S. Patent 4,913,379) in view of McDonnell (U.S. Patent 6,705,573) and Hubricht et al (U.S. Patent 5,181,673).

Regarding Claim 20, Kubota et al do not expressly disclose the flying object being launched by a launch and control post comprising an ejection system and not carried by the flying object. However, Hubricht et al. teach a missile system/flying object in which the missile is launched by a launch and control post (3) comprising an ejection system (i.e. launcher 2). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to provide such a launch and control post comprising an ejection system which is specific thereto and which is not carried by the flying object, as taught by Hubricht et al, for the purpose of mobile launching capabilities, as taught by Hubricht et al.

With regard to Claims 21-22, the invention of Kubota et al in view of McDonnell and Hubricht as taught above in the rejection of Claim 20 comprises a linking unit to link with the launch and control post (i.e. glass fiber 7 of Hubricht), which is an optical fiber for communications between the launcher and the flying vehicle.

With regard to Claim 23, Hubricht teaches an additional picture taking means (i.e. camera 60) disposed at the front of the elongate body. It would have been obvious to one having ordinary skill in the art at the time of the invention to further include the additional camera as taught by Hubricht for enhanced visibility of what lies ahead of or above the flying vehicle.

With regard to Claim 24, the invention of Kubota et al in view of McDonnell and Hubricht teaches a propulsion unit and a guidance unit (motors 6 and 8) capable of allowing the object to attack via a rear part of the elongate body (i.e. one of the motors is at the back of the body) a target detected by the picture taking unit at the rear of the elongate body as taught above (i.e. by being an imaging device, it is capable of detecting the presence of a target to determine attack decisions). Further, Hubricht teaches the flying object wherein it carries a warhead charge (62) for the purpose of being a piece of weaponry. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to further include a warhead charge in the invention of Kubota et al in view of

McDonnell for the purpose of providing a piece of weaponry for enemy destruction, as taught by Hubricht.

11. Claims 25-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kubota et al (U.S. Patent 4,913,379) in view of McDonnell (U.S. Patent 6,705,573), Hubricht et al (U.S. Patent 5,181,673), and Daudelin (U.S. Patent 3,185,096).

Regarding Claim 25, none of the prior references expressly discloses a propulsion unit and guidance unit being independent of the motors. However, Daudelin teaches a thrust reversal unit for a rocket motor for the purpose of stopping forward thrust of a rocket motor at any desired time (Column 1, lines 27-28). This enables further control of the rocket motor, especially with regard to safety issues. Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to additionally provide a propulsion unit and guidance unit (the thrust reversal system) as taught by Daudelin to the invention of Kubota et al as modified by McDonnell and Hubricht, for the purpose of providing a way to stop forward thrust of a rocket, as taught by Daudelin, for the purpose of enhancing range safety or overall vehicle control.

Regarding Claim 26, the propulsion unit and guidance unit (i.e. the thrust reversal system of Daudelin) in the direction of said target (i.e. the exhaust exits at least partially in the direction of a target) consists of an additional motor disposed at

the front of the elongate body (Figure 1, the motor being the nozzles and whatever propulsion gases exit through these nozzles).

Regarding Claim 27, the additional motor of Daudelin is taught as being behind a droppable hood (i.e. clamp band 14, which fractures and unblocks the nozzles when desired) for the purpose of keeping the nozzles closed until use. It would have been obvious to one having ordinary skill in the art at the time of the invention to further include this hood/band for the purpose of maintaining the aerodynamic qualities of the vehicle until the additional motor is needed.

Regarding Claim 28, none of the prior references used in the rejection of Claim 24 above expressly discloses the propulsion unit and guidance unit being formed by the lift and displacement motor and the attitude motor associated with third and fourth nozzles directed towards the front of the elongate body. However, Daudelin teaches the thrust reversal unit for the rocket motor being nozzles branched off of the main thrust motor. In the interest of mechanical simplicity (i.e. not requiring additional motors), it would have been obvious to one having ordinary skill in the art at the time of the invention to provide third and fourth nozzles (12 and 13 of Daudelin) as taught by Daudelin directed towards the front of the elongate body for the purpose of providing thrust reversal capabilities in the interest of range safety or enhanced vehicle control. These nozzles are formed by/powerd by the main motor in Daudelin and therefore it would have

been obvious to one having ordinary skill in the art at the time of the invention to form/direct these nozzles from the motors of Kubota et al for the purpose of providing reverse thrust without adding additional motors (and avoiding additional weight penalties). The nozzles are directed towards the front and distributed laterally around the attitude motor (i.e. as in Figure 4 of Daudelin they would be laterally distributed around the center axis of the vehicle and therefore around the center axis of the attitude motor).

Regarding Claim 29, the nozzles of Daudelin are orientable (i.e. by the entire vehicle being orientable, the nozzles are therefore orientable) and can be called by either the names "first and second nozzles" or "third and fourth nozzles" depending on the vehicle's orientation. Additionally, the nozzles of Kubota (70) are orientable at least partially towards (i.e. in the direction of) the front of the elongated body.

Regarding Claim 30, the third and fourth nozzles taught by Daudelin are fixed with respect to the vehicle body and are supplied with combustion gas by the main motor of Daudelin. In the modification of Kubota by McDonnell and Hubricht, these nozzles would be supplied with combustion gas by the motors.

***Response to Amendment***

12. The amendment to the claims filed on January 16, 2009 does not comply with the requirements of 37 CFR 1.121(c) because Claim 16 is listed as "Previously Presented." Amendments to the claims filed on or after July 30, 2003 must comply with 37 CFR 1.121(c) which states:

(c) *Claims.* Amendments to a claim must be made by rewriting the entire claim with all changes (e.g., additions and deletions) as indicated in this subsection, except when the claim is being canceled. Each amendment document that includes a change to an existing claim, cancellation of an existing claim or addition of a new claim, must include a complete listing of all claims ever presented, including the text of all pending and withdrawn claims, in the application. The claim listing, including the text of the claims, in the amendment document will serve to replace all prior versions of the claims, in the application. **In the claim listing, the status of every claim must be indicated after its claim number by using one of the following identifiers in a parenthetical expression: (Original), (Currently amended), (Canceled), (Withdrawn), (Previously presented), (New), and (Not entered).**

(1) *Claim listing.* All of the claims presented in a claim listing shall be presented in ascending numerical order. Consecutive claims having the same status of "canceled" or "not entered" may be aggregated into one statement (e.g., Claims 1-5 (canceled)). The claim listing shall commence on a separate sheet of the amendment document and the sheet(s) that contain the text of any part of the claims shall not contain any other part of the amendment.

(2) *When claim text with markings is required.* All claims being currently amended in an amendment paper shall be presented in the claim listing, indicate a status of "currently amended," and be submitted with markings to indicate the changes that have been made relative to the immediate prior version of the claims. The text of any added subject matter must be shown by underlining the added text. The text of any deleted matter must be shown by strike-through except that double brackets placed before and after the deleted characters may be used to show deletion of five or fewer consecutive characters. The text of any deleted subject matter must be shown by being placed within double brackets if strike-through cannot be easily perceived. Only claims having the status of "currently amended," or "withdrawn" if also being amended, shall include markings. If a withdrawn claim is currently amended, its status in the claim listing may be identified as "withdrawn—currently amended."

(3) *When claim text in clean version is required.* The text of all pending claims not being currently amended shall be presented in the claim listing in clean

version, *i.e.*, without any markings in the presentation of text. The presentation of a clean version of any claim having the status of "original," "withdrawn" or "previously presented" will constitute an assertion that it has not been changed relative to the immediate prior version, except to omit markings that may have been present in the immediate prior version of the claims of the status of "withdrawn" or "previously presented." Any claim added by amendment must be indicated with the status of "new" and presented in clean version, *i.e.*, without any underlining.

(4) *When claim text shall not be presented; canceling a claim.*

(i) No claim text shall be presented for any claim in the claim listing with the status of "canceled" or "not entered."

(ii) Cancellation of a claim shall be effected by an instruction to cancel a particular claim number. Identifying the status of a claim in the claim listing as "canceled" will constitute an instruction to cancel the claim.

(5) *Reinstatement of previously canceled claim.* A claim which was previously canceled may be reinstated only by adding the claim as a "new" claim with a new claim number.

Since the reply filed on January 16, 2009 appears to be *bona fide*, the examiner has provided an office action based on Claim 16 being deemed "Currently Amended."

***Response to Arguments***

13. Applicant's arguments with respect to Claim 16 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen Brookman whose telephone number is (571) 270-5513. The examiner can normally be reached on Monday through Thursday 10:00 AM EST to 4:00 PM EST, away alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Mansen can be reached on (571) 272-6608. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

***Summary***

15. The examiner acknowledges receipt of amendments to the abstract, specification, and claims dated January 16, 2009. Claims 16-30 are rejected above.

/S. B./  
Examiner, Art Unit 3644

/Tien Dinh/  
Primary Examiner, Art Unit 3644